SageGlass - Electronically tintable Glass
by Saint Gobain

CLASSIFICATION: 08 88 00

PRODUCT DESCRIPTION: SageGlass® is the pioneer of the world’s smartest dynamic glass and is transforming the indoor experience for people by connecting the built and natural environments. Electronically tintable SageGlass tints or clears on demand to control sunlight and prevent heat and glare without the need for blinds or shades. SageGlass dramatically reduces energy demand and the need for HVAC by blocking up to 91 percent of solar heat. As part of Saint-Gobain, SageGlass is backed by more than 350 years of building science expertise that only the world leader in sustainable environments can provide.

Section 1: Summary

CONTENT INVENTORY

Inventory Reporting Format
- Threshold Disclosed Per
  - Material
  - Product

Residuals/Impurities
- Residuals/Impurities
- Considered in 10 of 10 Materials
- Explanation(s) provided for Residuals/Impurities?
  - Yes
  - No

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

INVENTORY AND SCREENING NOTES:
Residuals and impurities have been considered. All raw materials have been identified and screen thru the HPD Builder. The only raw material not disclosed are proprietary but have still been screened in the Builder to identify any and all hazards.
VOLATILE ORGANIC COMPOUND (VOC) CONTENT
VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE
VOC emissions: CDPH Standard Method V1.2 (Section 01350/CHPS) - Residential scenario

CONSISTENCY WITH OTHER PROGRAMS
No pre-checks completed or disclosed.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Yes</td>
<td></td>
<td>PUBLISHED DATE: 2019-03-29</td>
</tr>
<tr>
<td>☐ No</td>
<td></td>
<td>EXPIRY DATE: 2022-03-29</td>
</tr>
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</table>
### GLASS

<table>
<thead>
<tr>
<th>Product threshold</th>
<th>Residuals and Impurities considered</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 ppm</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Residuals and Impurities Notes:** Residuals and impurities have been considered. All raw materials have been identified and screen thru the HPD Builder. The only raw material not disclosed are proprietary but have still been screened in the Builder to identify any and all hazards.

**Other Material Notes:**

<table>
<thead>
<tr>
<th>Amorphous Silica</th>
<th>ID: 7631-86-9</th>
</tr>
</thead>
</table>

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-03-29  
**%:** 66.5000 - 72.5000  
**GS:** LT-P1  
**RC:** None  
**NANO:** Unknown  
**ROLE:** Glass Additive  

**HAZARD TYPE**

- **CANCER**
  - Japan - GHS: Carcinogenicity - Category 1A  
- **CANCER**
  - Australia - GHS: H350i - May cause cancer by inhalation  

**SUBSTANCE NOTES:**

<table>
<thead>
<tr>
<th>Sodium Oxide</th>
<th>ID: 1313-59-3</th>
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</thead>
</table>

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-03-29  
**%:** 11.2500 - 15.7500  
**GS:** LT-UNK  
**RC:** None  
**NANO:** Unknown  
**ROLE:** Glass Additive  

**HAZARD TYPE**

- **CANCER**
  - Japan - GHS: Carcinogenicity - Category 1A  
- **CANCER**
  - Australia - GHS: H350i - May cause cancer by inhalation  

**SUBSTANCE NOTES:**

<table>
<thead>
<tr>
<th>Calcium Oxide</th>
<th>ID: 1305-78-8</th>
</tr>
</thead>
</table>

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-03-29  
**%:** 5.7500 - 7.5000  
**GS:** LT-P1  
**RC:** None  
**NANO:** Unknown  
**ROLE:** Glass Additive  

**HAZARD TYPE**

- **CANCER**
  - Japan - GHS: Carcinogenicity - Category 1A  
- **CANCER**
  - Australia - GHS: H350i - May cause cancer by inhalation  

**SUBSTANCE NOTES:**
<table>
<thead>
<tr>
<th>HAZARD TYPE</th>
<th>AGENCY AND LIST TITLES</th>
<th>WARNINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>No hazards found</strong></td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:**

### MAGNESIUM OXIDE (MGO)

<table>
<thead>
<tr>
<th>%: 3.2500 - 5.0000</th>
<th>GS: LT-UNK</th>
<th>RO: None</th>
<th>NANO: Unknown</th>
<th>ROLE: Glass Additive</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAZARD SCREENING METHOD: Pharos Chemical and Materials Library</td>
<td></td>
<td></td>
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<tr>
<td>HAZARD SCREENING DATE: 2019-03-29</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**WARNINGS**

**CANCER**

MAGNESIUM OXIDE is a Non-genotoxic carcinogen with low risk under MAK/BAT levels.

**SUBSTANCE NOTES:**

### ALUMINUM OXIDE

<table>
<thead>
<tr>
<th>%: 0.5000 - 1.5000</th>
<th>GS: BM-2</th>
<th>RO: None</th>
<th>NANO: Unknown</th>
<th>ROLE: Glass Additive</th>
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</thead>
<tbody>
<tr>
<td>HAZARD SCREENING METHOD: Pharos Chemical and Materials Library</td>
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<td></td>
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<tr>
<td>HAZARD SCREENING DATE: 2019-03-29</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**WARNINGS**

**RESPIRATORY**

ALUMINUM OXIDE is an Asthmagen (Rs) - sensitizer-induced.

**SUBSTANCE NOTES:**

### INTERLAYER

| %: 2.0100 - 2.9000 | |
| -------------------| |
| PRODUCT THRESHOLD: 100 ppm |
| RESIDUALS AND IMPURITIES CONSIDERED: Yes |
| RESIDUALS AND IMPURITIES NOTES: Residuals and impurities have been considered. All raw materials have been identified and screen thru the HPD Builder. The only raw material not disclosed are proprietary but have still been screened in the Builder to identify any and all hazards. |
| OTHER MATERIAL NOTES: |

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### 2-PROPENOIC ACID, 2-METHYL-, POLYMER WITH ETHENE, SODIUM SALT

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-03-29

<table>
<thead>
<tr>
<th>%:</th>
<th>GS:</th>
<th>RC:</th>
<th>NANO:</th>
<th>ROLE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0000 - 2.8500</td>
<td>LT-UNK</td>
<td>None</td>
<td>Unknown</td>
<td>Spacer Material</td>
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</tbody>
</table>

**HAZARD TYPE**

**AGENCY AND LIST TITLES**

- **WARNINGS**
  - No hazards found

**SUBSTANCE NOTES:**

### UV-328

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-03-29

<table>
<thead>
<tr>
<th>%:</th>
<th>GS:</th>
<th>RC:</th>
<th>NANO:</th>
<th>ROLE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0100 - 0.0500</td>
<td>LT-1</td>
<td>None</td>
<td>Unknown</td>
<td>Spacer Material</td>
</tr>
</tbody>
</table>

**HAZARD TYPE**

**AGENCY AND LIST TITLES**

- **WARNINGS**
  - PBT: EU - SVHC Authorisation List
  - PBT: Prioritized for listing
  - vPvB: Candidate list
  - vPvB: Prioritized for listing
  - PBT: OSPAR - Priority PBTs & EDs & equivalent concern
  - PBT: Substance of Possible Concern
  - PBT: ChemSec - SIN List
  - PBT / vPvB (Persistent, Bioaccumulative, & Toxic / very Persistent & very Bioaccumulative)
  - German FEA - Substances Hazardous to Waters
  - Class 2 - Hazard to Waters

**SUBSTANCE NOTES:**

### SECONDARY SEALANT

**%:** 1.2700 - 1.9900

**PRODUCT THRESHOLD:** 100 ppm

**RESIDUALS AND IMPURITIES CONSIDERED:** Yes

**RESIDUALS AND IMPURITIES NOTES:** Residuals and impurities have been considered. All raw materials have been identified and screen thru the HPD Builder. The only raw material not disclosed are proprietary but have still been screened in the Builder to identify any and all hazards.

**OTHER MATERIAL NOTES:**
<table>
<thead>
<tr>
<th>Substance Notes</th>
<th>ID</th>
<th>HAZARD SCREENING METHOD</th>
<th>HAZARD SCREENING DATE</th>
<th>%</th>
<th>GS</th>
<th>RC</th>
<th>NANO</th>
<th>ROLE</th>
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<tbody>
<tr>
<td>SILANOL TERMINATED POLYDIMETHYLSILOXANE</td>
<td>70131-67-8</td>
<td>Pharos Chemical and Materials Library</td>
<td>2019-03-29</td>
<td>0.6000 - 0.7000</td>
<td>BM-2</td>
<td>None</td>
<td>Unknown</td>
<td>Sealent Additive</td>
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<td>HAZARD TYPE</td>
<td>AGENCY AND LIST TITLES</td>
<td>WARNINGS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No hazards found</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| CALCIUM CARBONATE | 471-34-1 | Pharos Chemical and Materials Library | 2019-03-29 | 0.5500 - 0.8500 | BM-3 | None | Unknown | Sealent Additive |
| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
| | No hazards found |

| STEARIC ACID | 57-11-4 | Pharos Chemical and Materials Library | 2019-03-29 | 0.0500 - 0.0900 | LT-P1 | None | Unknown | Sealent Additive |
| ENDOCRINE | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| SUBSTANCE NOTES |

| 1,2-ETHANEDIAMINE, N-[3-(TRIMETHOXYSILYL)PROPYL]- | 1760-24-3 | Pharos Chemical and Materials Library | 2019-03-29 | 0.0100 - 0.0500 | LT-UNK | None | Unknown | Sealent Additive |
| HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
| | No hazards found |

<p>| 1,6-BIS (TRIMETHOXYSILYL) HEXANE | 87135-01-1 | Pharos Chemical and Materials Library | 2019-03-29 | | | | | |</p>
<table>
<thead>
<tr>
<th>Substance</th>
<th>ID</th>
<th>HAZARD SCREENING METHOD</th>
<th>HAZARD SCREENING DATE</th>
<th>%: 0.0100 - 0.0500</th>
<th>GS:</th>
<th>RC:</th>
<th>NANO:</th>
<th>ROLE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aminopropyltriethoxysilane RXN with Glycidoxy-propyltrimethoxysilane and Methyltrimethoxysilane</td>
<td>474530-85-3</td>
<td>Pharos Chemical and Materials Library</td>
<td>2019-03-29</td>
<td>0.0100 - 0.0500</td>
<td>NoGS</td>
<td>None</td>
<td>Unknown</td>
<td>Sealent Additive</td>
</tr>
<tr>
<td>Carbon Black</td>
<td>1333-86-4</td>
<td>Pharos Chemical and Materials Library</td>
<td>2019-03-29</td>
<td>0.0100 - 0.0500</td>
<td>LT-1</td>
<td>None</td>
<td>Unknown</td>
<td>Sealent Additive</td>
</tr>
<tr>
<td>Cyclohexanediol</td>
<td>556-67-2</td>
<td>Pharos Chemical and Materials Library</td>
<td>2019-03-29</td>
<td>0.0100 - 0.0500</td>
<td>BM-1</td>
<td>None</td>
<td>Unknown</td>
<td>Sealent Additive</td>
</tr>
</tbody>
</table>

### Substance Notes:

- **Aminopropyltriethoxysilane RXN with Glycidoxy-propyltrimethoxysilane and Methyltrimethoxysilane**
  - No hazards found
  - **WARNINGS**
    - No hazards found
  - **SUBSTANCE NOTES:** This material is not found in the HPD Builder or Toxnot Databases.

- **Carbon Black**
  - Hazard Screening not performed
  - **WARNINGS**
    - Cancer
      - US CDC - Occupational Carcinogens: Occupational Carcinogen
      - CA EPA - Prop 65: Carcinogen - specific to chemical form or exposure route
      - IARC: Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources
      - MAK: Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
  - **SUBSTANCE NOTES:**

- **Cyclohexanediol**
  - Hazard Screening not performed
  - **WARNINGS**
    - No hazards found
  - **SUBSTANCE NOTES:**

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<table>
<thead>
<tr>
<th>HAZARD TYPE</th>
<th>AGENCY AND LIST TITLES</th>
<th>WARNINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENDOCRINE</td>
<td>EU - Priority Endocrine Disruptors</td>
<td>Category 1 - In vivo evidence of Endocrine Disruption Activity</td>
</tr>
<tr>
<td>PBT</td>
<td>EU - ESIS PBT</td>
<td>Under PBT evaluation</td>
</tr>
<tr>
<td>PBT</td>
<td>EU - SVHC Authorisation List</td>
<td>PBT - Candidate list</td>
</tr>
<tr>
<td>PBT</td>
<td>EU - SVHC Authorisation List</td>
<td>vPvB - Candidate list</td>
</tr>
<tr>
<td>PBT</td>
<td>OR DEQ - Priority Persistent Pollutants</td>
<td>Priority Persistent Pollutant - Tier 1</td>
</tr>
<tr>
<td>PBT</td>
<td>EC - CEPA DSL</td>
<td>Persistent, Bioaccumulative and inherently Toxic (PBITE) to the Environment (based on aquatic organisms)</td>
</tr>
<tr>
<td>PBT</td>
<td>EC - CEPA DSL</td>
<td>Persistent, Bioaccumulative and inherently Toxic (PBITH) to humans</td>
</tr>
<tr>
<td>RESTRICTED LIST</td>
<td>US EPA - PPT Chemical Action Plans</td>
<td>TSCA Work Plan chemical - Action Plan in development</td>
</tr>
<tr>
<td>REPRODUCTIVE</td>
<td>EU - GHS (H-Statements)</td>
<td>H361f - Suspected of damaging fertility</td>
</tr>
<tr>
<td>MULTIPLE</td>
<td>ChemSec - SIN List</td>
<td>CMR - Carcinogen, Mutagen &amp;/or Reproductive Toxicant</td>
</tr>
<tr>
<td>ENDOCRINE</td>
<td>ChemSec - SIN List</td>
<td>Endocrine Disruption</td>
</tr>
<tr>
<td>ENDOCRINE</td>
<td>TEDX - Potential Endocrine Disruptors</td>
<td>Potential Endocrine Disruptor</td>
</tr>
<tr>
<td>MULTIPLE</td>
<td>German FEA - Substances Hazardous to Waters</td>
<td>Class 3 - Severe Hazard to Waters</td>
</tr>
<tr>
<td>RESTRICTED LIST</td>
<td>US EPA - PPT Chemical Action Plans</td>
<td>TSCA Work Plan chemical - ongoing chemical (risk) assessment</td>
</tr>
</tbody>
</table>

**SILOXANES AND SILICONES, DI-ME**

**ID:** 63148-62-9

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  **HAZARD SCREENING DATE:** 2019-03-29

<table>
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<tr>
<th>%: 0.0100 - 0.0500</th>
<th>GS: LT-P1</th>
<th>RC: None</th>
<th>NANO: Unknown</th>
<th>ROLE: Sealant Additive</th>
</tr>
</thead>
</table>

**HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PBT</td>
<td>EC - CEPA DSL</td>
<td>Persistent, Bioaccumulative and inherently Toxic (PBITH) to humans</td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:**

**TRIMETHOXY(METHYL)SILANE**

**ID:** 1185-55-3

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  **HAZARD SCREENING DATE:** 2019-03-29

<table>
<thead>
<tr>
<th>%: 0.0100 - 0.0500</th>
<th>GS: BM-1</th>
<th>RC: None</th>
<th>NANO: Unknown</th>
<th>ROLE: Sealant Additive</th>
</tr>
</thead>
</table>

**HAZARD TYPE | AGENCY AND LIST TITLES | WARNINGS |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PBT</td>
<td>EC - CEPA DSL</td>
<td>Persistent, Bioaccumulative and inherently Toxic (PBITH) to humans</td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:**
## SPACER

**Product Threshold:** 100 ppm  
**Residuals and Impurities Considered:** Yes

**Residuals and Impurities Notes:** Residuals and impurities have been considered. All raw materials have been identified and screen thru the HPD Builder. The only raw material not disclosed are proprietary but have still been screened in the Builder to identify any and all hazards.

**Other Material Notes:**

### STEEL MANUFACTURE, CHEMICALS

**ID:** 65997-19-5  
**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-03-29

<table>
<thead>
<tr>
<th>%: 0.2500 - 0.9900</th>
<th>GS: LT-UNK</th>
<th>RC: None</th>
<th>NANO: Unknown</th>
<th>ROLE: Formation/Structure</th>
</tr>
</thead>
</table>

**SUBSTANCE NOTES:**

## ELECTROCHROMIC FILM

**Product Threshold:** 100 ppm  
**Residuals and Impurities Considered:** Yes

**Residuals and Impurities Notes:** Residuals and impurities have been considered. All raw materials have been identified and screen thru the HPD Builder. The only raw material not disclosed are proprietary but have still been screened in the Builder to identify any and all hazards.

**Other Material Notes:**

### UNDISCLOSED

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-03-29

<table>
<thead>
<tr>
<th>%: 0.0100 - 0.0500</th>
<th>GS: LT-UNK</th>
<th>RC: None</th>
<th>NANO: No</th>
<th>ROLE: Film Additive</th>
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</table>

**SUBSTANCE NOTES:**
<table>
<thead>
<tr>
<th>HAZARD SCREENING METHOD: Pharos Chemical and Materials Library</th>
<th>HAZARD SCREENING DATE: 2019-03-29</th>
</tr>
</thead>
<tbody>
<tr>
<td>%: 0.0100 - 0.0500</td>
<td>GS: LT-P1</td>
</tr>
<tr>
<td></td>
<td>RC: None NANO: No ROLE: Film Additive</td>
</tr>
<tr>
<td>HAZARD TYPE</td>
<td>AGENCY AND LIST TITLES Warnings</td>
</tr>
<tr>
<td>CANCER</td>
<td>Japan - GHS Carcinogenicity - Category 1A</td>
</tr>
<tr>
<td>CANCER</td>
<td>Australia - GHS H350i - May cause cancer by inhalation</td>
</tr>
</tbody>
</table>

SUBSTANCE NOTES:

<table>
<thead>
<tr>
<th>HAZARD SCREENING METHOD: Pharos Chemical and Materials Library</th>
<th>HAZARD SCREENING DATE: 2019-03-29</th>
</tr>
</thead>
<tbody>
<tr>
<td>%: 0.0100 - 0.0500</td>
<td>GS: LT-P1</td>
</tr>
<tr>
<td></td>
<td>RC: None NANO: No ROLE: Film Additive</td>
</tr>
<tr>
<td>HAZARD TYPE</td>
<td>AGENCY AND LIST TITLES Warnings</td>
</tr>
<tr>
<td>CANCER</td>
<td>IARC Group 2B - Possibly carcinogenic to humans</td>
</tr>
<tr>
<td>CANCER</td>
<td>Japan - GHS Carcinogenicity - Category 1B</td>
</tr>
</tbody>
</table>

SUBSTANCE NOTES:

<table>
<thead>
<tr>
<th>HAZARD SCREENING METHOD: Pharos Chemical and Materials Library</th>
<th>HAZARD SCREENING DATE: 2019-03-29</th>
</tr>
</thead>
<tbody>
<tr>
<td>%: 0.0100 - 0.0500</td>
<td>GS: LT-UNK</td>
</tr>
<tr>
<td></td>
<td>RC: None NANO: No ROLE: Film Additive</td>
</tr>
<tr>
<td>HAZARD TYPE</td>
<td>AGENCY AND LIST TITLES Warnings</td>
</tr>
<tr>
<td></td>
<td>No hazards found</td>
</tr>
</tbody>
</table>

SUBSTANCE NOTES:

<table>
<thead>
<tr>
<th>HAZARD SCREENING METHOD: Pharos Chemical and Materials Library</th>
<th>HAZARD SCREENING DATE: 2019-03-29</th>
</tr>
</thead>
<tbody>
<tr>
<td>%: 0.0100 - 0.0500</td>
<td>GS: LT-1</td>
</tr>
<tr>
<td></td>
<td>RC: None NANO: No ROLE: Film Additive</td>
</tr>
<tr>
<td>HAZARD TYPE</td>
<td>AGENCY AND LIST TITLES Warnings</td>
</tr>
<tr>
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<thead>
<tr>
<th>HAZARD TYPE</th>
<th>AGENCY AND LIST TITLES</th>
<th>WARNINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESPIRATORY</td>
<td>AOEC - Asthmagens</td>
<td>Asthmagen (Rs) - sensitizer-induced</td>
</tr>
<tr>
<td>CANCER</td>
<td>IARC</td>
<td>Group 1 - Agent is Carcinogenic to humans</td>
</tr>
<tr>
<td>CANCER</td>
<td>CA EPA - Prop 65</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>CANCER</td>
<td>US NIH - Report on Carcinogens</td>
<td>Known to be a human Carcinogen</td>
</tr>
<tr>
<td>SKIN SENSITIZE</td>
<td>EU - GHS (H-Statements)</td>
<td>H317 - May cause an allergic skin reaction</td>
</tr>
<tr>
<td>CANCER</td>
<td>EU - GHS (H-Statements)</td>
<td>H350i - May cause cancer by inhalation</td>
</tr>
<tr>
<td>ORGAN TOXICANT</td>
<td>EU - GHS (H-Statements)</td>
<td>H372 - Causes damage to organs through prolonged or repeated exposure</td>
</tr>
<tr>
<td>CANCER</td>
<td>EU - REACH Annex XVII CMRs</td>
<td>Carcinogen Category 1 - Substances known to be Carcinogenic to man</td>
</tr>
<tr>
<td>MULTIPLE</td>
<td>ChemSec - SIN List</td>
<td>CMR - Carcinogen, Mutagen &amp;/or Reproductive Toxicant</td>
</tr>
<tr>
<td>CANCER</td>
<td>MAK</td>
<td>Carcinogen Group 1 - Substances that cause cancer in man</td>
</tr>
<tr>
<td>RESPIRATORY</td>
<td>MAK</td>
<td>Sensitizing Substance Sah - Danger of airway &amp; skin sensitization</td>
</tr>
<tr>
<td>CANCER</td>
<td>Korea - GHS</td>
<td>Carcinogenicity - Category 1 [H350 - May cause cancer]</td>
</tr>
<tr>
<td>CANCER</td>
<td>EU - Annex VI CMRs</td>
<td>Carcinogen Category 1A - Known human Carcinogen based on human evidence</td>
</tr>
<tr>
<td>CANCER</td>
<td>New Zealand - GHS</td>
<td>6.7A - Known or presumed human carcinogens</td>
</tr>
<tr>
<td>CANCER</td>
<td>Japan - GHS</td>
<td>Carcinogenicity - Category 1A</td>
</tr>
<tr>
<td>CHRON AQUATIC</td>
<td>Korea - GHS</td>
<td>H413 - May cause long-lasting harmful effects to aquatic life</td>
</tr>
<tr>
<td>CANCER</td>
<td>Australia - GHS</td>
<td>H350i - May cause cancer by inhalation</td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:**

**PRIMARY SEALANT**

- **%:** 0.0500 - 0.2500
- **PRODUCT THRESHOLD:** 100 ppm
- **RESIDUALS AND IMPURITIES CONSIDERED:** Yes

**RESIDUALS AND IMPURITIES NOTES:** Residuals and impurities have been considered. All raw materials have been identified and screen thru the HPD Builder. The only raw material not disclosed are proprietary but have still been screened in the Builder to identify any and all hazards.

**OTHER MATERIAL NOTES:**

**1-PROPENE, 2-METHYL-, HOMOPOLYMER**

- **ID:** 9003-27-4
- **HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library
- **HAZARD SCREENING DATE:** 2019-03-29
CARBON BLACK

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-03-29

%: 0.0100 - 0.0500
GS: LT-1
RC: None
NANO: Unknown
ROLE: Sealant Additive

HAZARD TYPE
AGENCY AND LIST TITLES
WARNINGS

CANCER
US CDC - Occupational Carcinogens
Occupational Carcinogen

CANCER
CA EPA - Prop 65
Carcinogen - specific to chemical form or exposure route

CANCER
IARC
Group 2B - Possibly carcinogenic to humans - inhaled from occupational sources

CANCER
MAK
Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification

SILICA GEL, PPTD., CRYS.-FREE

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-03-29

%: 0.0100 - 0.0500
GS: LT-UNK
RC: None
NANO: Unknown
ROLE: Sealant Additive

HAZARD TYPE
AGENCY AND LIST TITLES
WARNINGS

No hazards found

SILICA, AMORPHOUS, FUMED, CRYS.-FREE

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-03-29

%: 0.0100 - 0.0500
GS: LT-P1
RC: None
NANO: Unknown
ROLE: Sealant Additive

HAZARD TYPE
AGENCY AND LIST TITLES
WARNINGS

CANCER
Japan - GHS
Carcinogenicity - Category 1A

CANCER
Australia - GHS
H350i - May cause cancer by inhalation

SUBSTANCE NOTES:

CARBON BLACK
ID: 1333-86-4

SILICA GEL, PPTD., CRYS.-FREE
ID: 112926-00-8

SILICA, AMORPHOUS, FUMED, CRYS.-FREE
ID: 112945-52-5
**TALC**

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-03-29  
**%:** 0.0100 - 0.0500  
**GS:** BM-1  
**RC:** None  
**NANO:** Unknown  
**ROLE:** Sealant Additive

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<tr>
<th>HAZARD TYPE</th>
<th>AGENCY AND LIST TITLES</th>
<th>WARNINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CANCER</td>
<td>IARC</td>
<td>Group 2B - Possibly carcinogenic to humans</td>
</tr>
<tr>
<td>CANCER</td>
<td>MAK</td>
<td>Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification</td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:**

---

**SPACER JOINER**  
**%:** 0.0200 - 1.0000

**PRODUCT THRESHOLD:** 100 ppm  
**RESIDUALS AND IMPURITIES CONSIDERED:** Yes

**RESIDUALS AND IMPURITIES NOTES:** Residuals and impurities have been considered. All raw materials have been identified and screen thru the HPD Builder. The only raw material not disclosed are proprietary but have still been screened in the Builder to identify any and all hazards.

**OTHER MATERIAL NOTES:**

---

**NYLON 6**

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-03-29  
**%:** 0.0100 - 0.5000  
**GS:** LT-UNK  
**RC:** None  
**NANO:** Unknown  
**ROLE:** Spacer Material

<table>
<thead>
<tr>
<th>HAZARD TYPE</th>
<th>AGENCY AND LIST TITLES</th>
<th>WARNINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>IARC</td>
<td>Group 5B - Possibly carcinogenic to humans</td>
</tr>
<tr>
<td>Cancer</td>
<td>MAK</td>
<td>Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification</td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:**

---

**STEEL MANUFACTURE, CHEMICALS**

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-03-29  
**%:** 0.0100 - 0.5000  
**GS:** LT-UNK  
**RC:** None  
**NANO:** Unknown  
**ROLE:** Spacer Material

<table>
<thead>
<tr>
<th>HAZARD TYPE</th>
<th>AGENCY AND LIST TITLES</th>
<th>WARNINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>IARC</td>
<td>Group 5B - Possibly carcinogenic to humans</td>
</tr>
<tr>
<td>Cancer</td>
<td>MAK</td>
<td>Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification</td>
</tr>
</tbody>
</table>

**SUBSTANCE NOTES:**
DESICCANT

PRODUCT THRESHOLD: 100 ppm
RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities have been considered. All raw materials have been identified and screen thru the HPD Builder. The only raw material not disclosed are proprietary but have still been screened in the Builder to identify any and all hazards.

OTHER MATERIAL NOTES:

AMORPHOUS SILICA

ID: 7631-86-9

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-03-29

<table>
<thead>
<tr>
<th>%: 0.0100 - 0.0500</th>
<th>GS: LT-P1</th>
<th>RC: None</th>
<th>NANO: Unknown</th>
<th>ROLE: Dessicant Component</th>
</tr>
</thead>
</table>

HAZARD TYPE

CANCER

Japan - GHS
Carcinogenicity - Category 1A

CANCER

Australia - GHS
H350i - May cause cancer by inhalation

SUBSTANCE NOTES:

ZEOLITES OTHER THAN ERIONITE (CLINOPTILOLITE, PHILLIPSITE, MORDENITE, NON-FIBROUS JAPANESE ZEOLITE, SYNTHETIC ZEOLITES)

ID: 1318-02-1

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library
HAZARD SCREENING DATE: 2019-03-29

<table>
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<tr>
<th>%: 0.0100 - 0.0500</th>
<th>GS: LT-UNK</th>
<th>RC: None</th>
<th>NANO: Unknown</th>
<th>ROLE: Dessicant Component</th>
</tr>
</thead>
</table>

HAZARD TYPE

No hazards found

SUBSTANCE NOTES:

CONNECTOR

PRODUCT THRESHOLD: 100 ppm
RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: Residuals and impurities have been considered. All raw materials have been identified and screen thru the HPD Builder. The only raw material not disclosed are proprietary but have still been screened in the Builder to identify any and all hazards.

OTHER MATERIAL NOTES:

SageGlass - Electronically tintable Glass
hpdrepository.hpd-collaborative.org

HPD v2.1.1 created via HPDC Builder Page 14 of 17
## COPPER

**ID:** 7440-50-8  
**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-03-29

<table>
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<tr>
<th>%: 0.0100 - 0.0900</th>
<th>GS: LT-UNK</th>
<th>RC: None</th>
<th>NANO: Unknown</th>
<th>ROLE: Formation/Structure</th>
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**Hazard Type:**  
**Agency and List Titles:**  
**Warnings:** No hazards found

**Substance Notes:**

## GAS

<table>
<thead>
<tr>
<th>%: 0.0100 - 0.1000</th>
<th></th>
</tr>
</thead>
</table>

**Product Threshold:** 100 ppm  
**Residuals and Impurities Considered:** Yes

**Residuals and Impurities Notes:** Residuals and impurities have been considered. All raw materials have been identified and screen thru the HPD Builder. The only raw material not disclosed are proprietary but have still been screened in the Builder to identify any and all hazards.

**Other Material Notes:**

## ARGON

**ID:** 7440-37-1  
**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2019-03-29

<table>
<thead>
<tr>
<th>%: 0.0100 - 0.1000</th>
<th>GS: LT-UNK</th>
<th>RC: None</th>
<th>NANO: Unknown</th>
<th>ROLE: Gas</th>
</tr>
</thead>
</table>

**Hazard Type:**  
**Agency and List Titles:**  
**Warnings:** No hazards found

**Substance Notes:** SageGlass - Electronically tintable Glass  
hpdrepository.hpd-collaborative.org  
HPD v2.1.1 created via HPDC Builder
Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

### VOC EMISSIONS

<table>
<thead>
<tr>
<th>CERTIFYING PARTY:</th>
<th>Third Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICABLE FACILITIES:</td>
<td>All</td>
</tr>
<tr>
<td>CERTIFIER OR LAB:</td>
<td>Eurofins</td>
</tr>
<tr>
<td>ISSUE DATE:</td>
<td>2019-01-15</td>
</tr>
<tr>
<td>EXPIRY DATE:</td>
<td></td>
</tr>
</tbody>
</table>

CERTIFICATION AND COMPLIANCE NOTES: The tested product complies with the requirements of the "Standard method for the testing and evaluation of volatile organic chemical emissions from indoor sources using environmental changes (version 1.2)" as defined by the California Department of Public Health (CDPH) - Version of January 2017. The results of the tests show that SageGlass TGU complies with the following regulations/certifications: • French VOC Regulation (FR) • French CMR components (FR) • AgBB/ABG (GER) • Belgian Regulation (BEL) • Indoor Air Comfort® (Europe) • BREEAM International

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

No accessories are required for this product.

Section 5: General Notes

All raw materials have been screened thru the Builder, additional information with regards to warranty and technical information can be found on the website https://www.sageglass.com
MANUFACTURER INFORMATION

MANUFACTURER: Saint Gobain
ADDRESS: 2 Sage Way
Faribault MN 55021, USA
WEBSITE: https://www.sageglass.com

CONTACT NAME: Maure Creager
TITLE: Building Science Manager, LEED AP BD+C
PHONE: 507 331 4927
EMAIL: maure.creager@sageglass.com

KEY

OSHA MSDS Occupational Safety and Health Administration Material Safety Data Sheet
GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Hazard Types

AQU Aquatic toxicity
CAN Cancer
DEV Developmental toxicity
END Endocrine activity
EYE Eye irritation/corrosivity
GEN Gene mutation

GLO Global warming
MAM Mammalian/systemic/organ toxicity
MUL Multiple hazards
NEU Neurotoxicity
OZO Ozone depletion
PBT Persistent Bioaccumulative Toxic

PHY Physical Hazard (reactive)
REP Reproductive toxicity
RES Respiratory sensitization
SKI Skin sensitization/irritation/corrosivity
LAN Land Toxicity
NF Not found on Priority Hazard Lists

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)
BM-3 Benchmark 3 (use but still opportunity for improvement)
BM-2 Benchmark 2 (use but search for safer substitutes)
BM-1 Benchmark 1 (avoid - chemical of high concern)
BM-U Benchmark Unspecified (insufficient data to benchmark)

LT-P1 List Translator Possible Benchmark 1
LT-1 List Translator Likely Benchmark 1
LT-UNK List Translator Benchmark Unknown (insufficient information from List Translator lists to benchmark)
NoGS Unknown (no data on List Translator Lists)

Recycled Types

PreC Preconsumer (Post-Industrial)
PostC Postconsumer
Both Both Preconsumer and Postconsumer
Unk Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms

Inventory Methods:
Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology
Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- a method for the assessment of exposure or risk associated with product handling or use,
- a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.